

USFS BEAUTY CREEK CAMPGROUND (PWSNO 1280210) SOURCE WATER ASSESSMENT FINAL REPORT

March 11, 2003



State of Idaho Department of Environmental Quality

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SOURCE WATER ASSESSMENT FOR USFS BEAUTY CREEK CAMPGROUND

Under the Federal Safe Drinking Water Act Amendments of 1996, all states are required by the U.S. Environmental Protection Agency (EPA) to assess every source of public drinking water for its relative sensitivity to contaminants regulated by the Act. The Idaho Department of Environmental Quality is completing the assessments for all Idaho public drinking water systems. The assessment for your drinking water source is based on well construction characteristics; site specific sensitivity factors associated with the aquifer the water is drawn from; a land use inventory inside the well recharge zone; and water quality history. For transient water systems like USFS Beauty Creek Campground, recharge zones were generally delineated as a 1000-foot fixed radius around the wells.

This report, *Source Water Assessment for USFS Beauty Creek Campground* describes factors used to assess the well's susceptibility to contamination. The analysis relies on information from the well log; an inventory of land use, well site characteristics and potential contaminant sites identified through a Geographic Information System database search; and information from the public water system file. The ground water susceptibility analysis worksheet for USFS Beauty Creek Campground is attached.

Taken into account with local knowledge and concerns, this assessment should be used as a planning tool to develop and implement appropriate protection measures for this system. **The results should not be used as an absolute measure of risk and are not intended to undermine the confidence in your water system.**

Well Construction. The USFS Beauty Creek Campground well was put into service in August of 1980 and the well was deepened in July of 1981. It was drilled to a depth of 75 feet and the static water level is 15 feet. The first 42 feet of depth consist of gravel, followed by 14 feet of brown silt, and then 19 feet of granite. The 0.25" thick steel casing begins at 3 feet above ground and continues to a depth of 57 feet, into the granite layer. The casing is perforated from 52 to 57 feet. This perforation begins in brown silt and continues into granite. The surface seal consists of well cuttings and puddling clay and is 18 feet deep. The well is not located outside of the 100-year flood plain.

Well Site Characteristics. USFS Beauty Creek Campground is a large campground with campsites, parking areas, picnic sites and group sites. The wellhead is located between the campground drive and the highway. The campground serves an average of 50 people per day over a 201-day period from spring to fall. It is located 1/2 mile up Beauty Creek from Lake Coeur d'Alene's Beauty Bay. Sanitary services consist of several sealed vault toilets. There are designated parking areas for campers, picnickers and groups. Beauty Creek and another tributary cross the delineated recharge zone. This site is flat and in a small valley. With the exception of the campground, the entire recharge zone is comprised of steep hilly terrain that feeds into the valley on its way to Beauty Bay. Several vault toilets exist in the campground. The soils in the 1,000-foot radius delineated around the USFS Beauty Creek Campground well are considered moderately well to well drained.

Potential Contaminant Inventory. The potential sources for contamination in the recharge zone are the highway, the campground, the paved campground access road and the parking areas, the vaulted toilets, the tributary and the river. The picnic area, the parking areas and the roads are a potential source of chemical contaminants. The river and the tributary are potential sources of surface water contamination.

Water Quality History. Chemical testing at the USFS Beauty Creek Campground well has never returned with a result that exceeded the Maximum Contaminant Level (MCL).

The well has sporadically tested positive for trace amounts of Nitrates. The Nitrate levels ranged from non-detected to 0.059 mg/l and the MCL is 10.0 mg/L.

Positive Total Coliform Bacteria results at USFS Beauty Creek Campground were as follows: 2002-1, 1998-2, 1997-6, 1987-1, 1986-1, 1984-2, 1983-1, and 1981-1. It should be noted that 1997 and 1998 were flood-years.

Susceptibility to Contamination. The USFS Beauty Creek Campground well ranked moderately susceptible to all classes of regulated contaminants. Hydrologic sensitivity factors related to local geology added half of the points to the final susceptibility scores. The susceptibility analysis worksheet on page 5 of this report shows how the well was scored. Formulas used to compute the final susceptibility scores are at the bottom of the worksheet.

A Ground Water Under Direct Influence (GWUDI) report was completed in July of 2002. The report determined the water source to be groundwater.

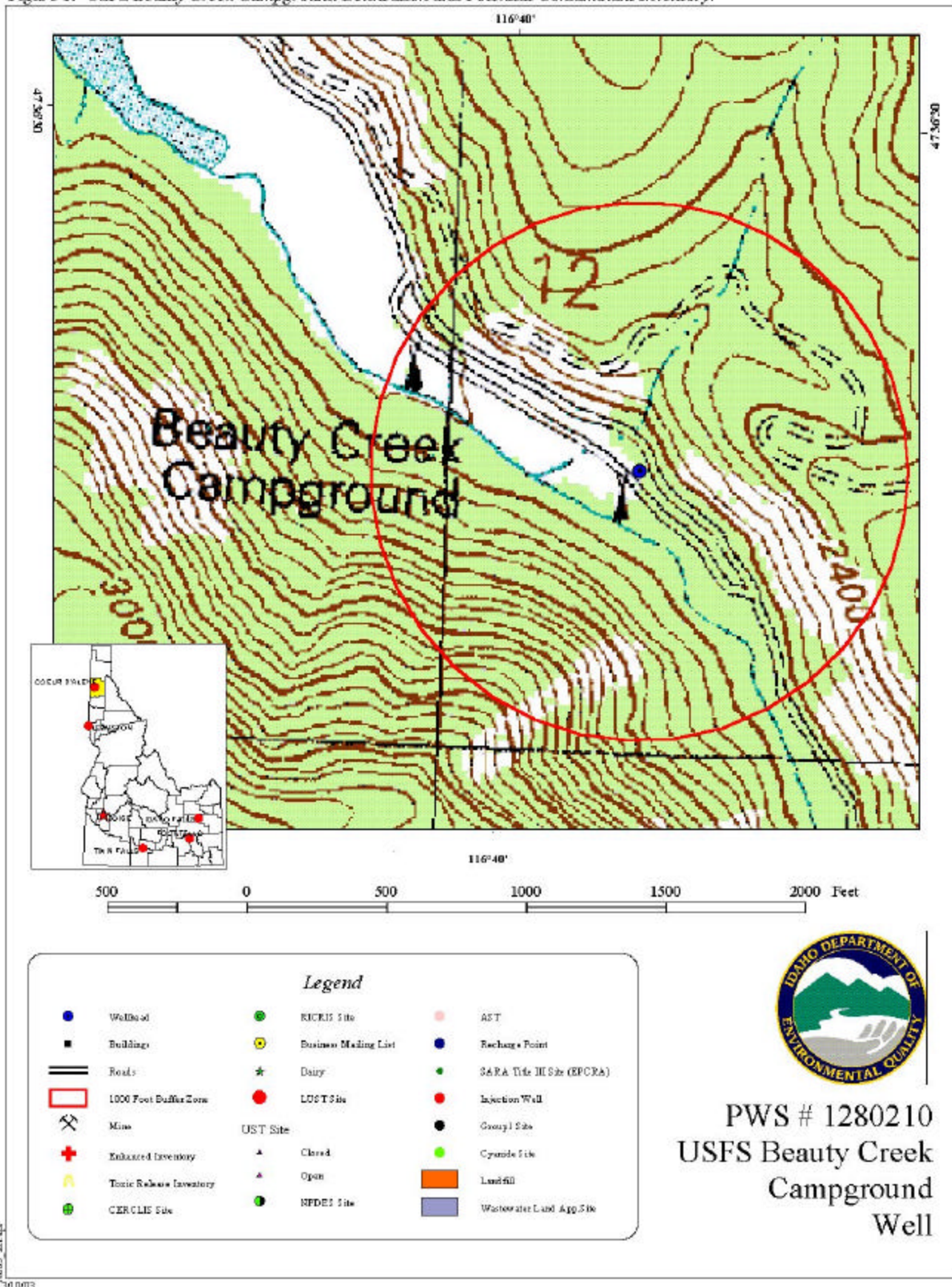
Source Water Protection. This assessment should be used as a basis for determining appropriate new protection measures or re-evaluating existing protection efforts. No matter what ranking a source receives, protection is always important. Whether the source is currently located in a “pristine” area or an area with numerous industrial and/or agricultural land uses, the way to ensure good water quality in the future is to act now to protect valuable water supply resources.

The USFS Beauty Creek Campground water system was in good condition and it was in compliance with the *Idaho Rules for Public Drinking Water Systems* when it was inspected in the August 2001 Sanitary Survey. The well is tested monthly instead of the required quarterly testing during the operating system. Continuing to operate and maintain the system as it has been in the past should ensure continuation of good water quality for the campground.

In August of 2001, the following deficiencies were noted. The hand pump needs to be painted and to have a shroud installed, the packing nut needs to be adjusted, repacked or replaced, the drain was plugged and could not be located for cleaning, and the gasket between the handle assembly and the stand is leaking and needs to be replaced. If any of the above situations have not yet been addressed, then they should be resolved as soon as possible. Protection efforts should also include signage to keep vehicles away from the well site and its recharge zone. Signage might read “Drinking Water Protection Area, Keep Vehicles, Pets & ALL Chemicals Away.”

For assistance in developing source water protection strategies please contact Dan Remmick at the Coeur d'Alene Regional DEQ office at 208 769-1422.

Figure 1. USFS Beauty Creek Campground Delineation and Potential Contaminant Inventory.



Ground Water Susceptibility

Public Water System Name :

USFS BEAUTY CREEK CAMPGROUND

Well# :

WELL #1

Public Water System Number :

1280210

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1. System Construction		SCORE			
Drill Date	7/9/81				
Driller Log Available	YES				
Sanitary Survey (if yes, indicate date of last survey)	YES	2001			
Well meets IDWR construction standards	NO	1			
Wellhead and surface seal maintained	YES	0			
Casing and annular seal extend to low permeability unit	NO	2			
Highest production 100 feet below static water level	NO	1			
Well located outside the 100 year flood plain	NO	1			
Total System Construction Score		5			
2. Hydrologic Sensitivity					
Soils are poorly to moderately drained	NO	2			
Vadose zone composed of gravel, fractured rock or unknown	YES	1			
Depth to first water > 300 feet	NO	1			
Aquitard present with > 50 feet cumulative thickness	NO	2			
Total Hydrologic Score		6			
3. Potential Contaminant / Land Use		IOC	VOC	SOC	Microbial
		Score	Score	Score	Score
Land Use	WOODLAND	0	0	0	0
Farm chemical use high	NO	0	0	0	
IOC, VOC, SOC, or Microbial sources in Sanitary Setback	YES	NO	NO	NO	YES
Potential Contaminant Source/Land Use Score		0	0	0	0
Potential Contaminant / Land Use - 1000-Foot-Radius					
Contaminant sources present (Number of Sources)	YES	1	1	1	1
(Score = # Sources X 2) 8 Points Maximum		2	2	2	2
Sources of Class II or III leachable contaminants or Microbials	YES	1	1	1	
4 Points Maximum		1	1	1	
1000-Foot-Radius contains or intercepts a Group 1 Area	NO	0	0	0	0
Land use 1000-Foot-Radius	Less Than 25% Agricultural Land	0	0	0	0
Total Potential Contaminant Source / Land Use Score - 1000-Foot-Radius		3	3	3	2
Cumulative Potential Contaminant / Land Use Score		3	3	3	2
4. Final Susceptibility Source Score		12	12	12	12
5. Final Well Ranking		Moderate	Moderate	Moderate	High

The final scores for the susceptibility analysis were determined using the following formulas:

- 1) VOC/SOC/IOC Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.27)
- 2) Microbial Final Score = Hydrologic Sensitivity + System Construction + (Potential Contaminant/Land Use x 0.35)

Final Susceptibility Ranking:

- 0 - 5 Low Susceptibility
 6 - 12 Moderate Susceptibility
 > 13 High Susceptibility

POTENTIAL CONTAMINANT INVENTORY LIST OF ACRONYMS AND DEFINITIONS

AST (Aboveground Storage Tanks) – Sites with aboveground storage tanks.

Business Mailing List – This list contains potential contaminant sites identified through a yellow pages database search of standard industry codes (SIC).

CERCLIS – This includes sites considered for listing under the **Comprehensive Environmental Response Compensation and Liability Act (CERCLA)**. CERCLA, more commonly known as Superfund is designed to clean up hazardous waste sites that are on the national priority list (NPL).

Cyanide Site – DEQ permitted and known historical sites/facilities using cyanide.

Dairy – Sites included in the primary contaminant source inventory represent those facilities regulated by Idaho State Department of Agriculture (ISDA) and may range from a few head to several thousand head of milking cows.

Deep Injection Well – Injection wells regulated under the Idaho Department of Water Resources generally for the disposal of stormwater runoff or agricultural field drainage.

Enhanced Inventory – Enhanced inventory locations are potential contaminant source sites added by the water system. These can include new sites not captured during the primary contaminant inventory, or corrected locations for sites not properly located during the primary contaminant inventory. Enhanced inventory sites can also include miscellaneous sites added by the Idaho Department of Environmental Quality (DEQ) during the primary contaminant inventory.

Floodplain – This is a coverage of the 100year floodplains.

Group 1 Sites – These are sites that show elevated levels of contaminants and are not within the priority one areas.

Inorganic Priority Area – Priority one areas where greater than 25% of the wells/springs show constituents higher than primary standards or other health standards.

Landfill – Areas of open and closed municipal and non-municipal landfills.

LUST (Leaking Underground Storage Tank) – Potential contaminant source sites associated with leaking underground storage tanks as regulated under RCRA.

Mines and Quarries – Mines and quarries permitted through the Idaho Department of Lands.)

Nitrate Priority Area – Area where greater than 25% of wells/springs show nitrate values above 5mg/l.

NPDES (National Pollutant Discharge Elimination System) – Sites with NPDES permits. The Clean Water Act requires that any discharge of a pollutant to waters of the United States from a point source must be authorized by an NPDES permit.

Organic Priority Areas – These are any areas where greater than 25 % of wells/springs show levels greater than 1% of the primary standard or other health standards.

Recharge Point – This includes active, proposed, and possible recharge sites on the Snake River Plain.

RICRIS – Site regulated under **Resource Conservation Recovery Act (RCRA)**. RCRA is commonly associated with the cradle to grave management approach for generation, storage, and disposal of hazardous wastes.

SARA Tier II (Superfund Amendments and Reauthorization Act Tier II Facilities) – These sites store certain types and amounts of hazardous materials and must be identified under the Community Right to Know Act.

Toxic Release Inventory (TRI) – The toxic release inventory list was developed as part of the Emergency Planning and Community Right to Know (Community Right to Know) Act passed in 1986. The Community Right to Know Act requires the reporting of any release of a chemical found on the TRI list.

UST (Underground Storage Tank) – Potential contaminant source sites associated with underground storage tanks regulated as regulated under RCRA.

Wastewater Land Applications Sites – These are areas where the land application of municipal or industrial wastewater is permitted by DEQ.

Wellheads – These are drinking water well locations regulated under the Safe Drinking Water Act. They are not treated as potential contaminant sources.

NOTE: Many of the potential contaminant sources were located using a geocoding program where mailing addresses are used to locate a facility. Field verification of potential contaminant sources is an important element of an enhanced inventory.

Where possible, a list of potential contaminant sites unable to be located with geocoding will be provided to water systems to determine if the potential contaminant sources are located within the source water assessment area.